



Joint Fires University Concept: Providing Leaders and Experts in the Art and Science of Fires

*"In the volatile, uncertain, complex and ambiguous environment we face for the foreseeable future, if we were to choose merely one advantage over our adversaries, it would certainly be this: to be superior in the art of learning and adaptation. This is the imperative for a culture of innovation in the United States Army." BG David A. Fastabend and Mr. Robert Simpson, *Adapt or Die**

On 1 April 2008, MG Peter Vangjel, the Commanding General of the Fires Center of Excellence (CoE) and Fort Sill, Oklahoma, published the Field Artillery Campaign Plan (FACP). As part of an effort to transform the US Army Fires capabilities to meet the challenges of this century, the FACP tasked the of US Army Field Artillery School leaders to develop a strategy for the creation of a Joint Fires University

By Alvin W. Peterson

(JFU). As a university "without walls," the JFU will enable Fires excellence through a blend of institutional courses, distance learning, virtual experiences and online forums.

Students will be able to access JFU courses from the University at Fort Sill, another service school, a civilian university or even at home station. Whether participating at the institution or virtually, Fires students from the Army, other services and civilian agencies will not only have access to experts from the institution, they will be able to share knowledge with each other as well.

The crucial point is that the JFU will provide Fires learners with continuous access to training and education that

supports career progression and provides "just-in-time" knowledge for emerging operational requirements. Through a combination of enabling technologies, the JFU will feature cutting-edge training and education methodologies, constant quality mentorship and superior learning and adaptation techniques in the art and science of Fires application and integration. The JFU will provide the nation with the Fires leaders and experts it needs.

Why a JFU? The question presents itself, why change? Why is an Army JFU needed? There are those who might assert that our Soldiers and leaders have performed admirably during the last seven years of war. Of course they have. It is clear that the nation fielded an exceptionally well-trained Army. But the questions must be asked, are our Fires integration skills adequate? Can we do it

better? Are we doing enough to prepare for the challenges of the future?

Contemporary Operating Environment. In 1997, in a speech before the National Press Club, General Charles C. Krulak, the Commandant of the Marine Corps, predicted the demands facing future warriors, coining the term Three-Block War. "In one moment in time, our service members will be feeding and clothing displaced refugees, providing humanitarian assistance. In the next moment, they will be holding two warring tribes apart, conducting peacekeeping operations. Finally, they will be fighting a highly lethal mid-intensity battle—all on the same day—all within three city blocks."

Before September 11, 2001, the Army prepared to fight a war with large formations against a similarly arrayed force, with the front line clearly articulated (and, in some cases, permanently drawn on maps). The enemy was well known, and his actions were predictable. Men who had spent many years preparing for this type of war would lead the major formations.

The majority of decisions would be made by those with the most experience, the most training and the most education. The young and inexperienced would execute the missions given to them by those more seasoned, only having to focus on tactical decision making. Strategic decisions would reside in the hands of general officers who spent years preparing to make those decisions.

While devastation and defeat were penultimate concerns, there was a sense of comfort as a result of predictability of enemy actions and the idea that force ratios could be managed to achieve a decisive victory. The scenario just described is not the reality that military leaders face today. Rather, General Krulak's three-block war and hybrid threats are the reality for our young warriors. It even can be argued that perhaps a fourth block has emerged with the control of information and knowledge being absolutely critical to strategic, operational and tactical success.

Clearly, our young leaders face an increasingly complex environment. In an age of instant communication, CNN and the use of information as a weapon, the decisions of the young and inexperienced have strategic implications. No longer are critical decisions the exclusive realm of senior leaders. Recognizing the reality of the strategic junior officer, junior NCO and Soldier, the US Army leadership is calling for development of agile and adaptive warriors at the lowest level.

Army Needs. The Army Training and

Leader Development Panel defined adaptability as the ability to "recognize changes to the environment to determine what is new and what to learn to be effective." Army leaders are looking for adaptive and critical thinkers who are capable of functioning in uncertainty. The Army requires leaders who are competent and confident in their core proficiencies; who can operate across the spectrum of conflict and employ their units; and who are tactically and technically competent, confident and adaptive. Army leaders also must have the knowledge and skills necessary to train and employ modular force units; be culturally aware and astute; be capable of executing mission-type orders and commander's intent; and be leaders of character.

The necessity to create agile and adaptive leaders from young and inexperienced Soldiers has the Army senior leadership calling for the transformation of how Soldiers are trained and educated. In General George W. Casey's 2008 Army Training and Leader Development Guidance, he stated, "Our Army has made tremendous progress since 9/11 in adapting training and leader development, but there is still much that has to be done. The new ways to train cannot simply be more good ideas added on top of old proven methods. As we grow the Army over the short term, we must adapt to the realities of persistent conflict, restore balance and build the strategic depth the nation requires. The three factors—adaptation, balance and strategic depth—will require innovation and change as we transform training and leader development to achieve our goals."

The challenge is clear; we must train our Soldiers and leaders to be technically and tactically competent and confident while educating them for uncertainties that they may face in an Era of Persistent Conflict. From a Fires perspective, we must prepare our Soldiers and leaders to plan, integrate and employ both lethal and nonlethal fires in full-spectrum operations and to be able to articulate to the maneuver commander the second- and third-order effects resulting from the use of fires.

The Mission. This task is made all the more challenging by the fact that many Fires formations are being tasked to perform in-lieu-of missions that do not

necessarily exercise the Fires system. At the same time, our entire Army is experiencing exponential technological advancement. It has been suggested that the sum of all knowledge doubles every seven years.

This fact, combined with a high operations tempo and continued assignment of in-lieu-of missions to our Artillerymen, led to a situation where our Soldiers coming from the "schoolhouse" are often the most current and most technically proficient in the unit. It is for this reason the FACP called for raising the competency of the student leaving the "schoolhouse" to a level of "mastery" vice "proficiency." Our challenge is exacerbated by the reality that time available to train and educate our Soldiers at the institution is limited.

While the maneuver commanders continually praise our Field Artillerymen for their flexibility and adaptability, how do we ensure that our Soldiers are technically and tactically competent and confident in their core competencies? How can we ensure that they are well trained and capable of integrating Fires from our joint and coalition partners? We believe that the answer resides within a JFU that will train and educate Soldiers, Marines, Airmen, Sailors and interagency personnel to plan, integrate and employ lethal and nonlethal Fires

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and provide the necessary skills to enable them to be culturally aware and astute.

The JFU. At the Association of the US Army Winter Conference, General Martin Dempsey, the Commanding General of the Training and Doctrine Command (TRADOC), stated, "We need to get into the business of how we deliver training and education, and the answer [cannot] be this is how we have always done it."

Recognizing the need to transform how we train and educate our Soldiers and leaders, the Fires CoE will stand-up the JFU. The JFU will provide a path to achieving the TRADOC Commander's number one priority of developing leaders. The JFU's concept is based upon a statement by the renowned educator Jean Piaget, "The principle goal of education is to create men and women who are capable of doing new things, not simply

of repeating what other generations have done". This statement is manifested in the Fires CoE CG directive to advance the nature of training and to develop more adaptive Soldiers, leaders and units capable of anticipating, integrating and dominating in full-spectrum operations. The JFU's core competency will be to train and educate leaders and Soldiers in the art and science of lethal and nonlethal Fires application and integration. The following is a proposal for the Joint Fires University vision and mission.

JFU Vision. Be the world's CoE for joint Fires. The JFU is the leader in providing education, training and development of experts in the art and science of lethal and nonlethal fires, producing Soldiers, leaders and units that enable the commander to dominate his environment through effective integration and application of joint and coalition Fires.

JFU Mission. Provide the highest quality training, education and development opportunities for leaders, Soldiers and joint and coalition personnel in lethal and nonlethal fires planning, integration, and application to support full-spectrum operations. Develop and export unit training products and provide training support to units to achieve readiness in essential Fires capabilities. Develop and sustain the infrastructure and materials to support life-long learning for

the institutional, self-development and operational training domains. The JFU Concept is shown in Figure 1.

Tenets of the JFU. Foundational to the JFU is the notion of life-long learning. The 2008 Army Training and Leader Development Strategy states, "Learning in the Army is a career-long process. Training and education in the institution and in the unit cannot meet the needs of every individual. When preparing for current operations or full-spectrum operations, Soldiers and civilians must continuously study Army and joint doctrine, lessons learned, observations, key insights and best practices. Commanders and other leaders create an environment that encourages subordinates to maximize self-development as an investment in their future."

This imperative recognizes the reality that, in this Era of Persistent Conflict and incredible change, the only way that an individual can keep pace is to take ownership for continuous learning. The model of the past was an instructor-centric/institution-centric model where students came to the institution to receive the training and knowledge needed for the next phase of their careers.

Learner-Centric Approach. Today's reality necessitates a learner-centric approach, facilitated by instructors who guide and enable a student's continuous

learning rather than "teach the test." Army learners may be at the institution, may reach back from their residence, or participate from their units at home station. The JFU will facilitate life-long learning with a 24/seven reach-back capability. Mentors, instructors and other students will be available to help learners with their training and education needs. The JFU will merge technology with cutting-edge training and education methodologies to create an ethos and culture of Fires mastery through excellence in training and education. Figure 2 illustrates the difference between instructor-centric and learner-centric capabilities.

JFU Instructors. The JFU will be a venue in which students will be provided access to others who are experts in their fields. These expert instructors will come from a variety of sources, to include joint and coalition nations, tactical units, academia and the Research and Development community. The JFU will seek to match expertise to the needs of each student.

For example, in the case of a student who is learning about a specific system, who better to provide expert system instruction than the program manager charged with developing and fielding the system? In the case of joint, interagency, intergovernmental and multinational organizations, the JFU, in partnership with the Combined Arms Center (CAC) at Fort Leavenworth, Kansas, will seek to establish partnerships with other agencies for the purpose of exchanging students, instructors and knowledge.

The JFU will have to adapt its staff and faculty requirements and hire experts, both civilian and military, as required. Partnering with civilian and other service universities will be a critical effort. As an example, the Fires CoE is in the process of hiring two cultural advisors who will be charged with the integration of cultural training and education into the Fires CoE curriculum.

A goal of the JFU will be to empower the staff and faculty. Adult learning theory outlines that those who learn best are those who take responsibility for their own learning and who are given an opportunity to reflect and dialogue during the training and education process. We will accomplish this by recruiting the finest leaders from the field and increasing the training, education and certification of those who will serve as instructors. They will be provided the tools to act as mentors and facilitators of learning. This will be accomplished through the training and education that our instructors receive

- Develop an adaptive, interactive learning organization committed to currency, relevancy and the contribution of knowledge to the joint Fires community.
- Select, educate and empower a certified and professional staff and faculty to achieve the vision, mission, objectives and goals of the JFU.
- Implement inquiry-based learning and other adult learning methodologies that enhance skill proficiency and maximize the development of adaptive and intuitive leadership and decision making.
- Train Soldiers for certainty and educate and develop Soldiers and leaders who are prepared for chaos and who are effective in uncertainty.
- Create a learning environment that supports the understanding of joint interdependence and implications of the strategic, operational and tactical levels of war.
- Foster an environment that mandates and enables life-long learning with students accepting personal responsibility for their continued training and education.
- Inculcate the Army values into all training, education and leader development to develop leaders of character.
- Establish and maintain a research and development outreach capability to rapidly inculcate lessons learned from current operations and provide impetus to continued technological advancement.

Figure 1: The Joint Fires University (JFU) concept embodies these principles.

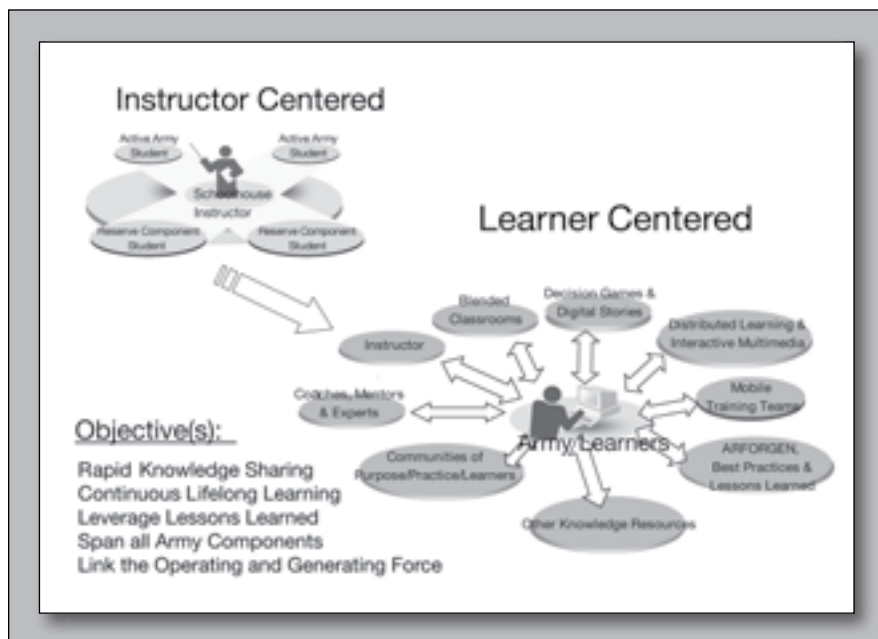


Figure 2: The Difference between Instructor-Centric and Learner-Centric Capabilities

when they arrive at the “schoolhouse” and by the mentorship they receive from senior master instructors.

As a part of this effort, preparatory courses for instructors are being re-designed. Ultimately, our instructors, acting as facilitators, will use instructional methods that emphasize reflection during the learning process coupled with technical and tactical expertise to raise the understanding of students. The intent is to ensure that the “best of the best” are hand picked to instruct at the JFU. So, not only will the JFU seek to train and educate to a level of “mastery” for all students, it will create master instructors who are acknowledged as experts in their fields as well as experts in adult learning.

The process of developing a cadre steeped in the art of facilitated learning through reflection has begun already with the help of the Asymmetric Warfare Group (AWG). AWG has been training the staff and faculty at Fort Sill in the techniques of Outcomes-Based Training and Education (OBTE)—a marriage between task-based training and Socratic methods. OBTE has been shown to increase task proficiency and to enhance the level of students’ understanding. OBTE is just one of several techniques that the faculty will employ at the JFU.

Virtual Learning. Another tool that JFU instructors will have at their disposal will be avatar-based virtual worlds where students, both as a part of their daily cur-

riculum time and on their own time, will be able to navigate tactical and garrison scenarios to exercise decision-making skills. For example, a “Virtual Platoon” interactive game concept is under development that will take the platoon leader through life in garrison, field training and pre-deployment, deployment and post-deployment phases.

This game will exercise a lieutenant’s decision-making abilities and overall knowledge of Army programs and support systems by immersing him in a variety of complex scenarios. The lieutenant will receive feedback about his decisions from avatar mentors or his JFU instructors. In many cases, the lieutenant will be forced to deal with the consequences of his decisions and reflect upon how he could have done better.

The intent is simple—to broaden the lieutenant’s base of experience by leveraging gaming technology, and as Malcolm Gladwell states in his book, *Outliers: The Story of Success*, start our junior leaders on their “10,000 hours” of practice to achieve mastery by leveraging gaming technology early in their professional education experience.

The JFU also will leverage emerging technologies for live, virtual and constructive (LVC) training and education. Gaming and simulations will enable the JFU to provide immersive scenarios that will allow students to make decisions and exercise Fires systems. By leveraging gaming and simulations, we will be able to broaden the students’ experience

base, fostering their intuitive decision making abilities.

Additionally, LVC provides an opportunity to link the operational, institutional and self-development domains. By using these kinds of technologies, we can link students in the classroom with a unit in the field while other students participate from home. To this end, we are exploring collaborative opportunities with both industry and civilian universities.

For several years, we have worked with local industry and the Institute of Creative Technologies, a subsidiary of the University of Southern California, to develop the Joint Fires and Effects Training System. Another example is being coined as the Red River Alliance. The Red River Alliance is collaboration between Fort Sill, the University of Texas and the University of Oklahoma to develop virtual training and education capabilities.

Educational Outcomes. JFU instructors also will use methods that civilian or other military universities use where students are asked to use inquiry-based or problem-based learning. Through active facilitation, instructors will ask students to discuss and resolve strategic, operational and tactical problems. In some cases, the students will be required to defend their solutions through oral debates. Other training events may require a reflective essay written so as to be published in a professional journal. None of these methods will be exclusive to the others; the sum of these methods will lead to a university experience enabling students to develop the capability for reflection and critical thinking.

The JFU will not achieve this vision in a vacuum. Partnering with civilian universities, as part of the Fires CoE outreach strategy, will be a key to success. The University of Texas-EI Paso (UTEP) provides an opportunity for captains attending the Air Defense Artillery (ADA) Captain’s Career Course (CCC) to take master’s degree level classes while attending the CCC, enabling the captain to earn a master’s degree in organizational leadership. UTEP will extend this opportunity to both FA and ADA officers when the ADA School moves to Fort Sill.

Additionally, Cameron University in Lawton, Oklahoma, is developing a master’s program in strategic and organizational leadership that is intended to help officers attending CCC take classes that will provide insights into the consequences of decisions at the strategic and operational levels. We intend to



PFC Justin Graves, a cannon crewmember assigned to B Battery, 1st Battalion, 319th Airborne Field Artillery Regiment, 82nd Airborne Division, yells and gives encouragement to his Iraqi national police partner during a joint operation, Iraq, 30 March. Multiple in-lieu-of missions such as this one have created a need to address gaps in core-competency skills. Joint Fires University would help address these gaps. (Photo by SSG Matthew Lima)

pursue the same kinds of partnerships for NCOs to enhance their educational opportunities while providing additive education that fosters their military skills and knowledge.

Mobile Training Teams. The JFU is committed to preparing leaders and Soldiers for operational success. As part of our effort, we established mobile training teams for the purpose of conducting individual- and section-level training at home station. Additionally, we have established a collective training and evaluation team to provide staff training and certification for brigade combat team and below.

The JFU will export courses to the field. For example, there are a number of courses with a high density of personnel at a given location who would benefit from the course coming to them instead of their coming to Fort Sill. An example is the Joint Fires Observer Course, where the Army has a requirement to train a significant number of Soldiers to meet the Army's operational needs.

It is logical that JFU would bring just-in-time training to Soldiers saving both money and time. The life-long learning

infrastructure of the JFU will provide a robust mechanism for units to reach-back to the university for training support packages, lessons learned, doctrine and emerging tactics, techniques and procedures. The JFU and its knowledge management resources will provide the operational force with real time access to Fires knowledge and expertise.

Electives. As a part of providing just-in-time training and education, JFU will seek to provide students more choices based upon their needs and the needs of the services. This will be accomplished by providing electives in the same manner that Command and General Staff College, Fort Leavenworth, Kansas, offers electives for majors attending intermediate-level education (ILE).

If a captain knows that he will be working with electronic warfare, it is logical that he may enroll in a follow-on Army Operational Electronic Warfare Course as part of his CCC experience to posture himself for success in his next assignment. Taking this logic a step further, as the JFU establishes relationships with both civilian and military universities, students may find themselves taking a course from another school as an elective for their JFU course.

Cultural awareness training provides an excellent example; two of the universities catering to students at Fort Sill currently offer classes in cultural awareness. Our intent is that these classes become electives for courses provided by the JFU.

Reserve Component. The JFU is not focused exclusively on the active Army. Those charged with developing and implementing the JFU strategy are working closely with Army National Guard (ARNG) representatives to leverage the significant training and education capabilities of the ARNG. The ARNG Regional Training Institutes (RTIs) are ideal "extension campuses" for the JFU (See "Education for ARNG FA Officers and NCOs" by COL Robert W. Roshell and LTC Lawrence M. Terranova in the January-February edition of *Fires*).

As we move down the road of JFU, we very well may see both active Army and Reserve Component (RC) Soldiers attending JFU courses at an extension campus that is tied to an RTI. Additionally, the JFU, like the Field Artillery School, will strive to provide equivalency in the curriculum between the active Army and RC. The methods of delivery may differ, but the JFU will seek to ensure that RC Soldiers have the same opportunities as their active duty counterparts.

How do we get there? A vision for the JFU is proffered. The question "how do we get there" now presents itself. As the ADA School and FA School come together at the Fires CoE, so too will we come together to form the JFU. The concept and strategy has been embraced by senior leaders at both the FA School and the ADA School.

A working group consisting of members from both schools has been stood-up to develop an implementation plan. This working group identified the goals and tasks necessary to achieve the JFU and laid out a phased approach to achieving the JFU. Many of the initiatives, such as the Red River Alliance and OBTE, are a direct result of the group's efforts to operationalize the JFU vision.

Our next step will be establishing the JFU Board of Directors. This Board will provide oversight for the development of the structure, the processes and the strategies for the JFU. This Board will identify the resources requirements and integrate the training resource capabilities of the Fires CoE to achieve the JFU.

Additionally, this Board will be charged with developing the strategies that lead to the development of experts in joint lethal and nonlethal Fires, perhaps even the creation of a master's degree in joint fires, much the same as the Master of Military Art and Science at ILE. Finally, the Board will champion the JFU culture.

The JFU culture will serve as the catalyst for the transformation of training and education and will enable Fires leaders and Soldiers to be agile and decisive—anywhere, anytime—in this Era of Persistent Conflict.

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